

ABSTRACT

The present invention provides an enhanced method and device to inhibit or reduce the rate of restenosis following angioplasty or stent placement. The invention involves placing a balloon tipped catheter in the area treated or opened through balloon angioplasty immediately following angioplasty. The balloon, which can have a dual balloon structure, may be delivered through a guiding catheter and over a guidewire already in place from a balloon angioplasty. A fluid such as a perfluorocarbon may be flowed into the balloon to freeze the tissue adjacent the balloon, this cooling being associated with reduction of restenosis. The catheter may also be used to reduce atrial fibrillation by inserting and inflating the balloon such that an exterior surface of the balloon is in contact with at least a partial circumference of the portion of the pulmonary vein adjacent the left atrium.